

**[0028] V. Claims**

We claim:

1. A method for inventorying a broadband access network multiplexing element switch fabric, the multiplexing element comprising a managed element in a broadband access network management system coordinated by a network manager, comprising:
  - establishing communication with an element manager from a remote location, the element manager comprising an intermediary between the network manager and the multiplexing element;
  - gathering status information for the multiplexing element by issuing a first interface retrieve command to the element manager from the remote location; and
  - gathering status information for the fabric structure by issuing a second interface retrieve command to the multiplexing element from the remote location.
2. The method of claim 1 wherein the establishing communication with the element manager from the remote location comprises establishing a TCP/IP session with the element manager.
3. The method of claim 2 wherein the establishing the TCP/IP session with the element manager comprises establishing a terminal emulation protocol session with the element manager.
4. The method of claim 3 wherein the establishing the terminal emulation protocol session with the element manager comprises establishing a telnet session with the element manager.
5. The method of claim 2 wherein the establishing the TCP/IP session with the element manager comprises establishing a TCP/IP session via an unassigned port.
6. The method of claim 1 wherein the gathering status information for the multiplexing element comprises gathering a network address for the multiplexing element.

7. The method of claim 6 wherein the gathering the network address for the multiplexing element comprises gathering a cilli code for the multiplexing element.
8. The method of claim 1 wherein the issuing the first and second interface retrieve commands comprise issuing protocol-independent interface retrieve commands.
9. The method of claim 8 wherein the issuing the protocol-independent interface retrieve commands comprise issuing transport level interface retrieve commands.
10. The method of claim 1 wherein the gathering the status information for the switch fabric comprises determining a number of logical cross-connects in the multiplexing element.
11. The method of claim 10 wherein the gathering the status information for the switch fabric further comprises gathering a logical cross-connect type for each of the logical cross-connects in the multiplexing element.
12. The method of claim 1 further comprising the step of storing the status information in a memory.
13. The method of claim 1 further comprising the step of producing a report based on the status information.
14. The method of claim 1 wherein the multiplexing element comprises a first multiplexing element in a plurality of multiplexing elements managed by the element manager, further comprising repeating the gathering status information for the switch fabric step for each remaining multiplexing element in the plurality of multiplexing elements.
15. The method of claim 14 wherein the element manager comprises a first element manager in a plurality of element managers comprising nodes in the access network, further comprising repeating the gathering status information for the element manager

step for each remaining element manager in the plurality of element managers.

16. A system for inventorying a broadband access network multiplexing element switch fabric, comprising:

an element manager, the element manager comprising an intermediary between a network manager and the multiplexing element;

a first communications path between the element manager and the multiplexing element, the first communications path carrying information and control commands between the element manager and the multiplexing element;

an inventory tool at a location remote from the element manager, the inventory tool generating inventory commands and compiling status information received in response to the inventory commands; and

a second communications path between the inventory tool and the element manager, the second communications path carrying the inventory commands and status information between the inventory tool and the element manager.

17. The system of claim 16 wherein the inventory tool comprises a software client running on a computer.

18. The system of claim 17 wherein software client includes a TCP/IP stack and the first communications path comprises a TCP/IP link.

19. The system of claim 18 wherein the TCP/IP link comprises a terminal emulation protocol link.

20. The system of claim 19 wherein the terminal emulation protocol link comprises a telnet link.

21. The system of claim 18 wherein the TCP/IP link comprises a TCP/IP link utilizing an unassigned port.

22. The system of claim 16 wherein the inventory commands generated by the inventory tool comprise interface retrieve commands.
23. The system of claim 22 wherein the interface retrieve commands generated by the inventory tool comprise protocol-independent interface retrieve commands.
24. The system of claim 22 wherein the interface retrieve commands generated by the inventory tool comprise transport level interface retrieve commands.
25. The system of claim 16 wherein the status information returned in response to the inventory commands comprises a number of logical cross-connects in the switch fabric.
26. The system of claim 25 wherein the status information returned in response to the inventory commands further comprises a logical cross-connect type.
27. A system for inventorying a broadband access network multiplexing element switch fabric, comprising:
- means for establishing communication with an element manager from a remote location, the element manager comprising an intermediary between a network manager and the multiplexing element;
  - means for gathering status information for the multiplexing element by issuing a first interface retrieve command to the element manager from the remote location; and
  - means for gathering status information for the fabric structure by issuing a second interface retrieve command to the multiplexing element from the remote location.